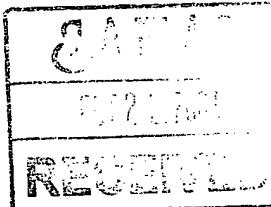


PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220



Applicant's or agent's file reference
see form PCT/ISA/220

International application No.
PCT/JP2004/007549

International filing date (day/month/year)
26.05.2004

Priority date (day/month/year)
28.05.2003

International Patent Classification (IPC) or both national classification and IPC
H01J9/02, H01J17/16, H01J17/49

Applicant
TOKYO OHKA KOGYO CO., LTD.

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

FOR FURTHER ACTION See paragraph 2 below

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Tano, V

Telephone No. +49 89 2399-5785



Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 a sequence listing
 table(s) related to the sequence listing
 - b. format of material:
 in written format
 in computer readable form
 - c. time of filing/furnishing:
 contained in the international application as filed.
 filed together with the international application in computer readable form.
 furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. The following document has not been furnished:

- copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).
 translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-11
	No: Claims	-
Inventive step (IS)	Yes: Claims	1-11
	No: Claims	-
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	-

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/JP2004/007549

Re Item V.

- 1 The following document is referred to in this communication:
D1 : US 2001/017520 A1 (TANIGUCHI HITOSHI ET AL) 30 August 2001 (2001-08-30)
- 2 **Independent claims 1-3,8**

2.1 Document D1, which is considered to represent the most relevant state of the art, discloses a method of manufacturing a front plate of a PDP (see Fig. 14A-14E), said method comprising the steps of forming on the glass substrate an unbaked dielectric layer (par. 149), burning the dielectric layer (par. 149), forming a photosensitive unbaked spacer material (i.e. the layer F, par. 150), irradiating said spacer material (par. 152).

From this, the subject-matter of independent **claim 8** differs in that:

- a) a burnable intermediate layer which is water soluble is formed between the unbaked dielectric layer and the photosensitive layer;
- b) the unbaked dielectric, the burnable intermediate layer and the patterned spacer material layer are baked simultaneously to burn up said intermediate layer and said spacer layer on said glass substrate simultaneously.

The subject-matter of **claim 8** is therefore novel (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as:
how to build a front plate of a PDP having a uniform thickness of a region of a dielectric layer subjected to the removing development.

The solution to this problem proposed in **claim 8** is that of forming a burnable water soluble intermediate layer which may be dissolved upon washing the pattern with water after or simultaneously with the development of the exposed spacer material layer. There are no indications in the prior art documents which would prompt the skilled person to adopt this solution. Therefore, the solution proposed in claim 8 of the present application is considered as involving an inventive step (Article 33(3) PCT).

2.2 The products of independent **claims 1-3**, which include the water soluble burnable intermediate layer, are suitable for the method of **claim 8**. These products are neither

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/JP2004/007549

mentioned nor suggested in any of the prior art documents.

2.3 Claims **4-7,9-11** are dependent claims and as such also meet the requirements of the PCT with respect to novelty and inventive step.

3 Miscellaneous:

3.1 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

3.2 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 is not mentioned in the description, nor is this document identified therein.